

# MIDWEST CLEAN DIESEL INITIATIVE

## Summary of Michigan Clean Fleet Conference

March 22, 2006

## Event Description

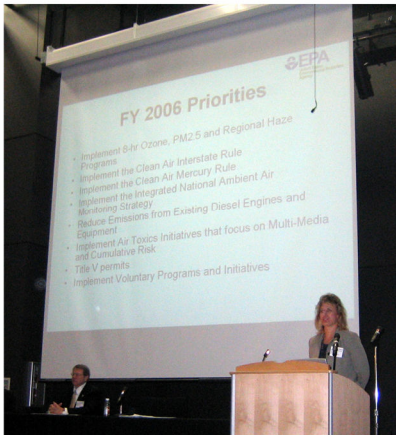
**Driving Technologies, Fuels, and Funding for Cleaner Air** was the theme for the first Michigan Clean Fleet Conference which was held at the NextEnergy Center in Detroit, Michigan. This one-day event presented by the U.S. EPA Midwest Clean Diesel Initiative, Michigan Department of Environmental Quality, Michigan Department of Economic Labor and Growth, and the NextEnergy/Detroit Area Clean Cities Coalition educated over 150 participants including fleet managers and public officials on how to address current environmental and energy challenges in the transportation sector by incorporating new technologies and alternative fuels into their operations. Corporate sponsors for this event included: Caterpillar, Dana, Diesel Technology Forum, Donaldson, Engine Control Systems, General Motors, International Truck and Engine Corporation, and Purem. Exhibitors included: Autotherm, Cummins Bridgeway, DTE Energy, Espar of Michigan, Hybra-Drive Systems, L.L.C., RKA Petroleum Companies, T-Check Systems, Inc. and Webasto Product North America, Inc. Serving as master of ceremonies was Matt Rousch – Technology Editor, WWJ Newsradio 950, Great Lakes IT Report and Michigan Energy Report. In addition, the event was broadcasted live by WWJ Newsradio 950.



Vehicle displays included alternative-fueled vehicles, a school bus retrofitted with a diesel particulate filter, engine-off idle reduction technology on a heavy-duty truck (pictured), and a waste hauler equipped with a diesel oxidation catalyst.

## Welcome and Overview

NextEnergy and U.S. EPA offered a program overview and a brief introduction to the Midwest Clean Diesel Initiative, a public-private partnership to reduce emissions from the Midwest. The Deputy Director of the Air and Radiation Division of EPA Region 5 (EPA R5) and the State Air Director from the Michigan Department of Environmental Quality (MDEQ) spoke about the air quality concerns in the Region and Michigan. Some areas in Michigan do not meet the National Ambient Air Quality Standards for ozone and fine particulate matter in addition to being impacted by toxic air pollutants. Vehicle emissions contribute to these air pollution problems. Therefore, voluntary programs like the Midwest Clean Diesel Initiative have great potential to help certain areas meet the national ambient air quality standards. A toxicologist with MDEQ spoke on the impacts of diesel exhaust on human health. She also discussed the Detroit Air Toxics Initiative, a recent study which estimated that people living in the Detroit area are exposed to significant air toxics, some of which result from motor vehicle exhaust.



EPA Region 5 Deputy Air Division  
Director Cheryl Newton



*Federal, State, and Local Partners Leading the Way to Cleaner Air*

# Panel Discussions

## **U.S. EPA Diesel Regulations, Retrofit Technologies, and Ultra Low Sulfur Diesel**

Speakers on this panel outlined the technical options for reducing diesel engine emissions which can be summarized as refueling, retrofitting, repairing, re-powering, or replacing vehicles. Refueling a fleet could consist of using a fuel that produces fewer emissions, such as ultra low sulfur diesel (ULSD), or an alternative fuel like biodiesel. Retrofitting vehicles means putting an after-market exhaust control device on a vehicle, such as a diesel oxidation catalyst or diesel particulate filter. Repairing or rebuilding an older or poorly maintained engine also may reduce emissions. Re-powering a vehicle or complete vehicle replacement would reduce emissions and accelerate the use of new engines that have stricter emission standards. A speaker from Marathon Oil, which manufactures ULSD, described some of the differences between ULSD and standard diesel. A representative from Caterpillar, Inc. described a school bus retrofit project in Peoria and a project at the Port of Cleveland in which Caterpillar retrofitted several pieces of cargo handling equipment as part of a consent decree. Okemos School District discussed the implementation of their prior retrofit project with multiple school districts, as well as their current retrofit project which will involve installation of diesel oxidation catalysts to approximately 372 school buses throughout the non-attainment areas in Southern Michigan.

## **Alternative Fuels**

DTE Energy provided a summary of the economic and environmental benefits of alternative fuels on the market, including electricity, natural gas, propane, ethanol, methanol, biodiesel, and hydrogen. A representative from the Michigan Corn Growers Association spoke about the value of ethanol as a renewable fuel and the exponential growth of ethanol in Michigan. Biodiesel Industries presented how biodiesel is a viable fuel which is produced locally, emits less toxic chemicals, and has become much more cost competitive recently. The City of Taylor, Michigan attested to their use of hydrogen fuel cells and natural gas vehicles which have been a great success. Cummins Westport, Inc. provided insights of several engines that they produce which operate on various alternative fuels such as natural gas, ethanol, and biodiesel.

## **Idle Reduction and Fuel Saving Technologies for Trucks, Buses, and Locomotives**

U.S. EPA described the SmartWay Transport Partnership (SWTP) program, which seeks public and private partners to reduce fuel usage in the freight industry, and therefore, reduces emissions. SWTP has a long list of partners, including both freight shippers and carriers, who work together on this issue. Technologies for reducing idling and fuel consumption include, but are not limited to: truck stop electrification, auxiliary power units (APUs), single-wide tires, and no idling policies. The vehicle superintendent from Birmingham Public Schools described how his school district set bus idle times to 15 minutes. After 15 minutes of idling, the engines automatically shut off. These policies are now saving the school district approximately 500 gallons of fuel per month. EcoTrans Technologies, Inc. described the auxiliary power units (APU) available for locomotives. These are smaller diesel engines which can reduce emissions CO<sub>2</sub> and NO<sub>x</sub> emissions up to 90%. The rail line CSX Transportation, Inc. has been using APU's on their fleet and the emission reductions have been sold as credits in the Ontario NO<sub>x</sub> emissions trading program. x

# Panel Discussions (Continued)

## Hybrids

U.S. EPA presented basic information on how hybrid vehicles operate, including electric and hydraulic hybrids. Although electric hybrids are more common now, hydraulic hybrids have more potential for recovering energy and may dominate the marketplace in the future. The U.S. Army presented their test of electrical hybrid tactical vehicles. Soldiers were very pleased with the hybrids because they performed well and had additional benefits such as an on-board portable battery and the ability to move in near silence. WestStart/CALSTART Hybrid Truck Users Forum discussed how many member companies are making and committing to using hybrid electric trucks. They have found substantial benefits in fuel costs, increased electrical power demands, idle management, and productivity. The key to the success of hybrids is identifying the right type of fleet which can benefit the most from its use.

## Funding Opportunities and Legislative Update

The Federal Highway Administration spoke about the Congestion Mitigation and Air Quality (CMAQ) Improvement Program. The CMAQ program provides funding in ozone non-attainment areas (which are typically large cities) for mitigation projects, which may include diesel reduction efforts. U.S. EPA provided an overview of the National Clean Diesel Campaign which offers grant opportunities as well as technical support to fleet managers considering reducing diesel emissions. In addition, provisions from the Energy Policy Act of 2005, which included a focus on diesel school buses and other heavy duty vehicles was highlighted. The Diesel Technology Forum (DTF) discussed a retrofit tool kit available on their website. DTF also distinguished between federal funding which has been authorized but not yet appropriated, like the Energy Policy Act, and those which are available today, such as CMAQ. Okemos School District offered a list of grant writing tips for diesel school bus projects.

# Conclusion

After the conference, an evaluation form was collected to record feedback from the conference attendees. The consensus was that most participants have a better understanding of idle reduction and emission control technologies, and many will either add or continue to support these devices for their fleet. In addition, several organizations indicated they are interesting in joining the EPA SmartWay program. The participants enjoyed the vehicle and vendor displays because they provided a hands-on approach to learning about various retrofit and idle reduction technologies. In conclusion, the conference was very well-attended and received by the participants whom learned about the opportunities to further diesel emission reductions in their community or company.